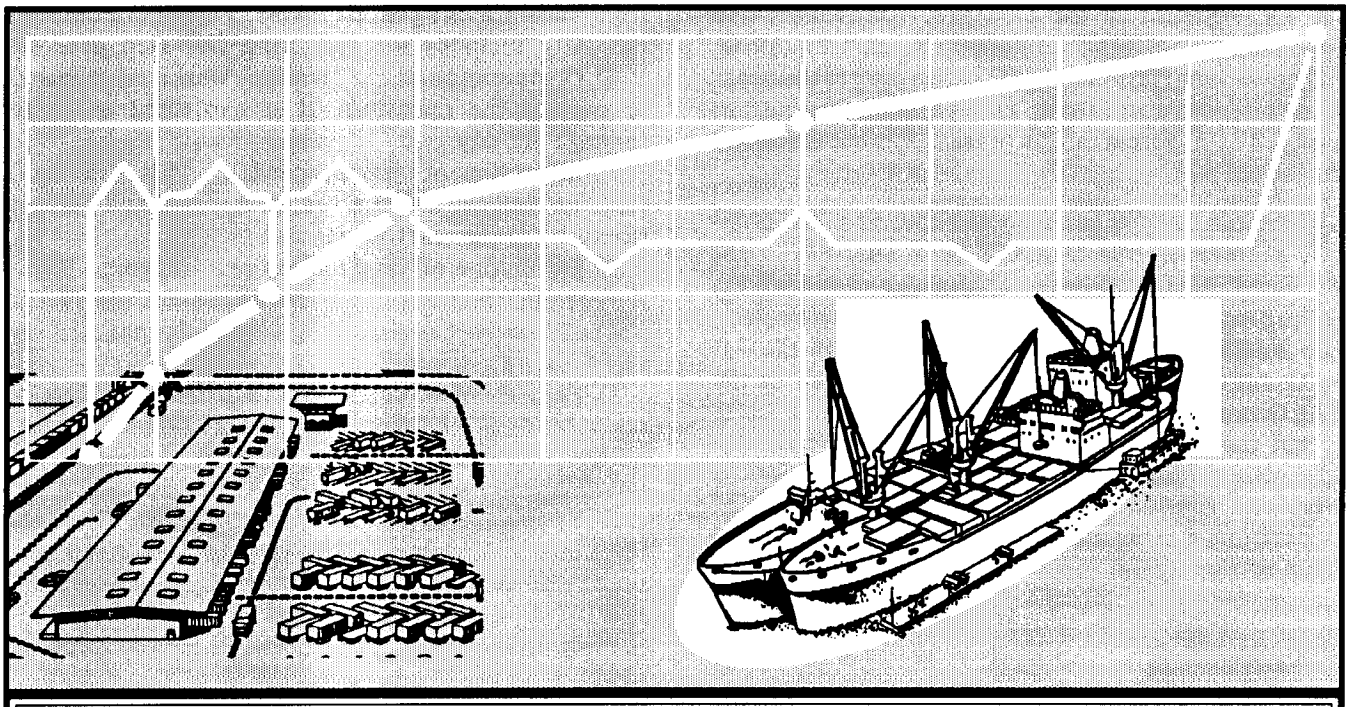

CHAPTER 7

INLAND TERMINAL OPERATIONS

INTRODUCTION

Inland terminals are established at both ends of and at interchange points along theater air, rail, and motor transport systems. They transship cargo and personnel carried by these modes. Army cargo handling at these inland terminals is a main function of the transportation cargo transfer company (TOE 55-8 17). Normally, the mode battalion or group having primary transport responsibility for the system, operates and controls the entire inland terminal facility. Transportation cargo transfer companies are attached to these elements for operational control. In the case of terminal cargo companies or elements employed at Air Force air terminals, the cargo transfer company is normally attached to the mode operating battalion responsible for clearing cargo from the air terminal.

In most situations, motor and air transport are the main transport services. Inland transfer operations are conducted chiefly at terminals and transfer points serving those modes. These terminals are established throughout COMMZ, corps, and division rear areas, as required, to provide an adequate transportation service. If usable terminal facilities exist, they are incorporated into the transportation network. Since transportation must respond to CSS needs, cargo transfer activities normally occur under austere circumstances. Terminals serving rail and inland waterways are established along existing operable routes and, in the case of rail, with available and operable rolling stock and facilities. Movements by water and rail are more economical, respectively, then motor and air.

The cargo transfer company conducts cargo transfer operations at inland terminals. They are supervised by the transportation brigade in the COSCOM and by the

TA TRANSCOM in the COMMZ. Assignment and attachment, command relationships, unit functions, and operational techniques vary according to the needs of the respective terminals. The operational variations imposed by different modes of transport are discussed in this chapter.

The cargo transfer company can operate at air terminals performing the DACG/AACG missions. The mission of the DACG is to coordinate and control the outloading of units for deployment or redeployment. The DACG is the deploying units link with the Air Force for loading the aircraft. The mission of the AACG is essentially the same as that for the DACG, except that the AACG is primarily concerned with offloading operations. If practical for the AACG mission, the cargo transfer company will be prepositioned at the arrival airfield. Otherwise, it will move to the arrival airfield in lead elements of the transported force. The DACG or AACG is the transported unit's point of contact with the Air Force ALCE at the departure or arrival airfield. All personnel responsible for supervision of the outload must be thoroughly familiar with the loading procedures applicable to the types of aircraft to be loaded. Where practical, the marshaling/outload area should be surveyed by the DACG or AACG. The survey will provide current and accurate information on facilities available and support required. For detailed information on DACG/AACG operations, see FM 55-12.

The transportation group provides transportation support. It deploys its units to provide local haul and line-haul transportation support, transportation movements management, and terminal facilities. The structure of the transportation group is tailored to match the particular support requirements. The number of subordinate units, including cargo transfer companies, varies according to the situation. Essentially, the group transport units connect the transportation intersectional services with support maintenance. The group also provides forward-moving transportation for cargo delivered by Air Force aircraft into the service area.

STAFF AND UNIT PLANNING

A determination of the numbers, types, and locations of terminals within the theater results from staff planning at all levels. Terminal planning normally includes the following five-step process:

❑ Computation of the terminal workload required to support the operation. It is expressed as cargo tonnage per day.

❑ Estimation of terminal capacity. This is the total tonnage that can be received, processed, and cleared through the terminal in one day.

❑ Estimation of construction requirements. These are the requirements to repair and rehabilitate facilities and construct new facilities so the terminal capacity can equal the required terminal workload.

❑ Estimation of equipment requirements. This is the amount of equipment needed to process the required workload through the terminal with maximum efficiency.

❑ Estimation of personnel requirements. These are the units and individuals needed to administer and operate the terminal processing the required workload.

FM 101-10-1/2 contains a detailed checklist for estimating inland terminal capacity. It details terminal planning at staff level.

Unit level planning begins when a company is tasked to perform cargo transfer functions at a specific site. If the terminal facility exists before a cargo transfer company or its elements is assigned, initial procedures include a meeting between the transfer unit and the transport mode commanders to define and determine mutual support requirements, The meeting is followed by a joint inspection of the terminal area to acquaint the transfer unit commander with the layout. Tentative real estate allocations for all units to operate at or from the proposed terminal are normally made during this area reconnaissance.

OPERATIONAL PLANNING

Once the area and general mission are assigned, the unit commander must consider various factors that provide the basis for operational planning. The following are the factors he must consider.

❑ He must consider the physical characteristics and layout of the terminal area including the following:

- Physical restrictions on working space.
- Availability of hard surfaces in transfer areas.
- Existing facilities for storage and maintenance of MHE and other equipment.

- Proximity of exit routes to transfer points.
- Distances between loading and unloading points and temporary holding areas.

❑ He must consider the characteristics of the transportation equipment including the following:

- Number of individual carriers that can be handled simultaneously.
- Turnaround time of delivery transportation.
- Unit loading and unloading rates for various types of transportation.
- Effects of size and maneuverability of carriers on the location of transfer points within the terminal.
- Effects on use of and requirements for MHE.

❑ He must consider the types of cargo to be handled including the following:

- Size and type of packaging.
- Average weights of cargo units.
- Requirements to break down into smaller lots or consolidate for reloading.
- Shelter and security protective requirements in in-transit storage areas.
- Fragility and/or perishability.
- Problems involved in and precautions for handling hazardous cargo.

❑ He must consider the requirements for and selection of temporary in-transit storage areas including the following:

- Estimated availability of clearance transportation compared with the volume of delivery transportation.
- Shelter and security requirements.
- Additional documentation required.
- Distances from loading and unloading points.
- Requirements for MHE in the holding area.

❑ He must consider the composition of the work force including the following:

- Number and size of teams required.
- Allocation of MHE according to the types of carriers and types of cargo.
- Arrangement of shifts for around-the-clock operations.
- Provisions for consolidating documentation.

❑ He must consider establishing unit procedures for documentation, communications, supply, safety, and maintenance of equipment. He must consider the provisions for area defense and damage control based on overall terminal area plans.

❑ He must also consider unit procedures for complying with applicable federal, state, local, and HN environmental regulations; including but not limited to spill contingency planning, waste disposal, and site specific environmental concerns.

PERSONNEL AND EQUIPMENT REQUIREMENTS

Time studies of cargo-handling operations indicate that the following are valid averages for long-range planning purposes.

❑ When cargo must be handled entirely by hand, personnel requirements can be computed on the average of 1/2 ton per man-hour for a 10-hour shift. Divide the daily tonnage by the shift length multiplied by the man-hour tonnage capabilities. For example, the number of men required to handle 120 STONs of cargo per 10-hour shift is computed as follows:

$$= \frac{\text{Daily tonnage}}{\text{Shift lengths in hours x man-hour capability in tons per given shift}}$$

$$= \frac{120}{10 \times 1/2}$$

$$= \frac{120}{5} = 24 \text{ (personnel required)}$$

NOTE

This formula is valid only for the normal 10-hour shift where the daily tonnage requirement is expected to remain constant. It includes the working supervisors but does not provide for documentation of the cargo. Generally, one cargo checker per shift is sufficient at each loading or unloading site. However, terminal transfer unit cargo handlers should be trained as checkers to meet additional requirements if they occur.

❑ Normally, a maximum of five men can effectively load or unload an Army aircraft or truck by hand. This crew consists of a working foreman and four cargo handlers or half a squad. Two of the men work in the cargo compartment of the carrier and the other two work on the ground, loading platform, or

another carrier involved in the cargo transfer. The foreman divides his time between the two groups and assists as needed. One squad can load or unload two trucks or two aircraft by hand if the carriers are located close enough together that the squad leader and the single cargo checker can properly perform their duties at each location.

❑ An entire cargo transfer squad (four men working the car and four on the outside) is required to load or unload a railcar by hand or augmented by MHE. The supervisor and checker assist as required.

❑ Because inland waterway craft do not normally carry cargo that can be entirely manhandled, full use of the equipment platoon and the cargo equipment squads is required in this type of operation.

❑ Cargo should be transferred mechanically when supplies are unitized and the MHE is compatible with the carriers. For planning purposes, personnel requirements to mechanically handle cargo by such equipment as rough terrain forklifts, cranes, and/or tractor-trailers are usually limited to an operator for each piece of MHE, a checker, and appropriate supervisory personnel.

AIR TERMINALS

Air cargo transfer operations within the theater take place at Air Force and Army air terminals. The Air Force commander must provide terminal facilities at all points served by the AMC or tactical airlift aircraft. This includes loading and unloading the aircraft and Army clearance and delivery transport equipment. However, the Army commander may, by local agreement, provide personnel to help load and unload Army transportation at these facilities. He may also accept responsibility for loading and unloading Air Force aircraft at forward landing fields or airstrips that are not a regularly scheduled stop for tactical airlift aircraft. Each of these situations uses the cargo transfer company or its elements. The transfer company or its elements may also furnish personnel to load and unload Air Force tactical airlift aircraft conducting Army unit moves (see FM 55-12). The cargo transfer company is required to accept cargo from the Air Force pending CDI. It may provide break-bulk facilities for consolidated shipments and cargo awaiting Army transport. The transfer company may also operate a consolidating point for retrograde air shipments.

The COSCOM establishes and operates Army air terminals in corps areas to support Army ALOC. Facilities and services are provided at these terminals for timely and effective air movement of personnel and supplies and for efficient use of available aircraft. The senior Army officer of the transport units operating at these points normally acts as the terminal commander. Cargo transfer units load and unload aircraft, document cargo moving through the terminal, and operate cargo segregation and temporary holding facilities. The MCT located at or near the terminal coordinates the flow of cargo and passengers into and out of the airlift system. When Army aircraft are used in a local distribution operation, shipping and receiving agencies (rather than the cargo transfer company) must load and unload the aircraft.

At division level, the DISCOM is responsible for air terminal operations. It establishes one or more air terminals according to the volume of cargo received or distributed by air. Normally, the supply and transport battalion operates division air terminals. However, elements of the cargo transfer company may be transported by air to forward airstrips to unload cargo for limited periods.

Cargo transfer companies or their elements are assigned to air terminals on the basis of the daily tonnage to be moved through a terminal. To obtain a smooth flow of cargo through these terminals, the capacities of clearance and delivery transport equipment must be balanced with the transfer capability. The ideal situation is when cargo moves through and out of the terminal at the same rate that it comes in. This seldom occurs however, because movement of priority cargo overrides the first-in, first-out concept. If the backlog becomes too great, throughput capacity of the terminal is reduced due to the increase in cargo-handling within the holding areas. In all situations, every effort must be made to ensure that cargo availability and clearance transportation are equal to the tonnage requirements of the ultimate user.

Most air cargo is unitized on 463L pallets. The transfer unit's forklifts unload and move cargo from the aircraft unloading point to clearance transportation or temporary holding areas. Forklifts and cranes load or unload surface transportation. Cargo discharge from aircraft is frequently consolidated to most efficiently use the heavier CHE. Conversely, cargo

unloaded from surface carriers may have to be segregated and prepared into units compatible with aircraft space and weight capacities.

The cargo transfer company also has a variety of slings and nets to rig external loads for helicopter delivery. Arrangements must be made for periodic return 'of these items so that a sufficient supply is always available in the terminal.

MOTOR TRANSPORT TERMINALS

Motor transport terminals are normally located at both ends of a line-haul operation. They form the connecting link between local hauls and the line-haul service. They may also be located at intermediate points along the line-haul route where terrain necessitates a change in type of carrier. Cargo transfer elements provide cargo-handling service at motor transport terminals. The senior motor transport commander operationally controls them. DISCOM personnel are responsible for cargo transfer at forward terminals.

Motor transport unit capabilities range from 720 to 2,160 STONs per company, per day for local hauls and from 360 to 1,080 STONs per day for line-haul operations. (Motor transport operations are detailed in FM 55-30.) Therefore, cargo transfer requirements at motor transport terminals range from an augmented platoon (additional squads) to two augmented companies (additional platoons), depending on the number of truck units operating through the terminals. If cargo transiting the motor transport terminal is containerized, the facility may be recognized as a motor transport container terminal. With this configuration of cargo, the cargo transfer capability will require CHE.

Based on the planning factors noted above, a full-strength cargo transfer company can discharge 12 trucks at a time when employed on a 10-hour per day basis. Light and medium truck companies operate with an average availability of 45 vehicles. Each company makes four trips per day in local-haul operations and two trips per day in line-haul operations. To permit the truck units to maintain this turnaround schedule, each transfer squad must load or unload an average of one truck per hour. At normal manual handling rates, this average can be maintained with relative ease, particularly when using 2 l/2-ton trucks. However, when heavier vehicles are used, the unit commander must ensure that handling rates keep pace with the truck turnaround schedules. He must carefully allocate the unit's heavier CHE among the squads to minimize delays at each transfer point.

RAIL TERMINALS

Rail terminals may include yard tracks, repair and servicing facilities, train crew accommodations, and railheads. They are located at originating and terminating points and at sites that mark the limits of rail operating divisions. A railhead can be any size yard or terminal on or at the forward end of a military railway where personnel, supplies, and equipment are transferred to other modes of transportation for further movement forward.

Army and/or HN rail units provide an intersectional transportation service. The Army units are assigned to TA TRANSCOM. The transportation composite group (TOE 55-622L) exercises command and control. Rail capability within the field Army will be exploited whenever usable facilities exist, provided tactical situations are favorable. The fluidity of the front, ability to maintain air superiority, extent of guerrilla activity, and attitude of the local populace are some of the factors that affect the decision to use rail units and the extent of their use in the CZ.

Cargo transfer units at terminating railheads in the field Army area, transfer cargo delivered from COMMZ depots and terminals to forward-moving COSCOM transportation. When so employed, the transfer unit works with the railway detachment operating the terminal. But, the COSCOM transport organization responsible for further forward movement of the cargo operationally controls the unit.

The transfer unit's heavier CHE, particularly the 20-ton rough terrain cranes, are used to the maximum at rail terminals. In general, the cranes unload vehicles and other heavy equipment from flatcars and gondolas. Forklifts and conveyors unload boxcars. Heavier cargo items and containers are handled in large proportions at rail terminals. However, the increased requirement for temporary holding and cargo breakdown and repackaging may lower

average handling rates. This factor should be considered when throughput and clearance capacities are being computed.

One cargo transfer squad, appropriately augmented with MHE, is employed to unload each railcar. Although the capacities of US railcars average 50 tons each, 75 to 80 percent of the cars used in overseas theaters will be local equipment, most rated in the 15- to 30-ton range. Generally, railcars loaded with heavy, bulky items such as ammunition, barbed wire, cement, vehicles, packaged weapons, and tools are loaded to rated capacity. However, when the cargo is made up of such items as rations, clothing, and tentage, loads average from 50 to 75 percent of the car's rated capacity.

INLAND WATERWAY TERMINALS

Cargo transfer units are employed only at small intermediate cargo transfer points on IWWSs. Limitations on their use at these points are the size and configuration of the waterway craft and capabilities and capacities of the unit's CHE. When the waterway delivery is composed largely of barges, landing craft, and similar types of floating equipment, the cargo transfer company may be used in the transshipping process. However, when larger, ocean-type shipping is operated, transportation terminal service companies (TOE 55-818L) must be assigned for loading and discharge. In the latter situation, the cargo transfer unit may be assigned to support terminal service company shore platoons.

Generally, if the waterway originates in the corps area, the cargo transfer company is attached to the organization operating the waterway. However, if the waterway system originates in the COMMZ and is part of the intersectional transportation service, the commander providing clearance transportation, operationally controls the transfer unit in the corps area. In retrograde operations, this scheme of command and control does not change.

PERSONNEL MOVEMENTS

The transportation cargo transfer company is designed to function primarily in cargo transfer operations. However, it may on occasion be required to help move personnel through a terminal to which it is assigned. Such situations include intraterminal unit moves; patient evacuations; and prisoners of war, refugees, and displaced persons.

Intraterminal Unit Moves

When requested by the troop movement officer or the terminal commander, transfer company personnel can help process a unit through the terminal. They can serve as guides. They can provide transport and MHE to move personnel and equipment from the point of debarkation to the loading area.

Patient Evacuations

Terminal transfer personnel may help evacuate patients only upon request from the senior medical representative responsible for transferring of the patients. He and his assistants direct the manner of the evacuation. Extreme care must be exercised when moving the sick and injured. Personnel untrained in this duty should not be used. However, the transfer operation can be materially aided. Unit personnel can serve as terminal guides and assistants in loading and unloading accompanying supplies and equipment.

Prisoners of War, Refugees, and Displaced Persons

Intraterminal movements of persons in these categories are conducted under the control and supervision of MP and/or civil affairs personnel. When requested, members of the cargo transfer company may serve as guards, guides, or interpreters and may help move property, supplies, and equipment.

DOCUMENTATION

The cargo transfer company uses manual or automated cargo documentation for various purposes. Cargo must be receipted when it arrives at the terminal, is cleared forward, and is stored in a temporary holding area. Records of all shipment units handled are kept using the documentation and procedures required by DOD Regulation 4500.32-R, Volumes I and II and locally produced inventories and registers.

The checker is responsible for tallying cargo actually received against the documentation. He records the transshipment and notes discrepancies, damages, and improper or insufficient markings using the TCMD or electronic equipment (LOGMARS).

Hard copy reports produced by the documentation section ensure high in-transit visibility and a clear audit trail of cargo. When the cargo is ready for forwarding from the terminal, the documentation is updated to reflect any consolidation that has occurred. This information is given to the checkers who document the cargo as it leaves the terminal. Completed records are retained at the terminal. Additional forms and documentation procedures that may be required in the theater are specified in appropriate directives.